

Mathematics 223, Fall 2012 (Section #22216)
Vector Calculus (3 credits)

Lectures: MWF 9:00–9:50 AM, Snow 120

Instructor: Prof. Jeremy Martin

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Office: 623 Snow Hall, (785) 864-7114

Office hours: Tuesdays and Wednesdays, 1–2 PM, or by appointment

Website: The course website is:

<http://www.math.ku.edu/~jmartin/math223/>

Check the website frequently! You are responsible for all information posted on the website, including announcements and homework assignments.

Prerequisites: Math 122/142 (Calculus II). You should have some experience with the basics of vectors (see, e.g., chapters 9–10 of Stewart’s *Calculus: Concepts and Contexts*, KU edition) and with some multivariable calculus (chapters 11–12 of Stewart). A linear algebra course such as Math 290 is helpful, but not required.

Textbook: *Vector Calculus*, 4th edition, by Susan Jane Colley. Available at KU Bookstore (800-458-1111, <http://www.kubookstore.com>). We will cover most of chapters 1–7, working fairly quickly through chapters 1–2 (which overlap with the material of 122/142).

Calculator: You should have a graphing calculator, such as the TI-83. You may use a more powerful calculator, such as the TI-89, but it is not necessary. You will be permitted to use your calculator on all tests. Two students may not share a calculator on a test.

For some homework problems, you will need to be able to draw plots in 3-D. Good, free online options include WolframAlpha (good for quick calculations) and Sage (a more powerful programming language). Alternately, you can use a commercial package such as Maple, Matlab or Mathematica if you have access (but you shouldn’t have to spend money on this).

Blackboard: The only use of the Blackboard site will be to post grades. For everything else, use the course website. If you are enrolled in the course, you should automatically have access to your grades via Blackboard — if not, contact Prof. Martin.

Homework: Homework is due in class every Friday (with some exceptions), starting August 24. I’ll post each assignment on the website at least one week before the due date. There will be 12 homework assignments. I will drop your two lowest scores, including any missed assignments. Homework is worth 30% of your grade. If you will not be in class on a due date, you can turn in your homework in advance to my mailbox in the Math Department office, 405 Snow, or to my office, 623 Snow. Your homework should be as neat and legible as if it were typed, and all sheets should be stapled together. *Homework turned in late will not be accepted.*

Some problem sets will feature optional extra credit problems, which will be more challenging than the regular homework exercises. Turn in extra credit problems as a separate packet.

In-class tests: There will be two in-class tests, on **Friday, September 28** and **Friday, November 9**. Each test is worth 20% of your grade.

Final exam: The final exam is scheduled for **Monday, December 10**, from 7:30 AM–10:00 AM, in the regular classroom (Snow 120). The exam will focus on material covered after the second test, but you will be responsible for the entire semester. The exam is worth 30% of your grade.

Aids permitted on tests: You will be permitted to use a calculator of your choosing. Cell phones and any devices with Internet connections must be turned off during tests.

Makeup tests and exams: If for some legitimate and unavoidable reason you are unable to attend a scheduled midterm or final exam, it is your responsibility to notify me *beforehand* to arrange a makeup exam. KU policy is that no student is required to take more than two final exams on a single day; check the official final exam calendar well in advance.

Approximate time commitment: This is a 3-credit course, so you should expect to spend at least 6 hours per week outside of class to get a decent grade. In addition to spending time on homework problems, you should get into the habit of reading a section or two ahead in the book, so as to be better prepared for lecture.

Grading: I will calculate each student's raw score as follows:

- Homework: 300 points
- Test #1: 200 points
- Test #2: 200 points
- Final exam: 300 points
- **Total: 1000 points**

Scoring 900 points guarantees you an A, scoring 800 guarantees you at least a B, etc. I may lower these requirements and/or use $+/-$ grades at my discretion.

Incompletes: A grade of I is a rare occurrence and is reserved for cases in which a student has completed most of the course work at an acceptable level, but is prevented from completing the course due to extraordinary nonacademic circumstances. If you think an incomplete may be warranted, you must talk to me *before* the final exam.

Academic honesty and collaboration: You are required to abide by all KU policies on academic integrity. Cheating, plagiarism or other academic misconduct will result in a failing grade on the assignment in question, notification of the student's dean, and usually further disciplinary sanctions, possibly including a failing grade in the course.

You are encouraged to collaborate with other students on the homework assignments. However, *each student must write up his or her own solutions and acknowledge all collaborators*. Copying someone else's homework, or allowing someone else to copy yours, is considered to be a form of cheating.

Official KU policies on academic misconduct:

<https://documents.ku.edu/policies/governance/USRR.htm#art2sect6>

Disability accommodations: The KU Office of Disability Resources (22 Strong Hall; 785-864-2620 (V/TTY); achieve@ku.edu; <http://www.disability.ku.edu> coordinates accommodations and services for all students who are eligible. If you have a disability for which you wish to request accommodations, please contact Disability Resources as soon as possible. Please also contact me privately in regard to your needs in this course.

Religious accommodations: If you know that a scheduled assignment will conflict with a mandated religious observance, please contact me in advance to make appropriate arrangements.

Intellectual property: Course materials prepared by the instructor, together with the content of all lectures and review sessions, are the intellectual property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Upon reasonable request, the instructor will usually grant permission to record lectures, on the condition that such recording is used only as a study aid by the student making the recording, and is not modified or distributed in any way. Course materials posted online are intended for the personal use of students in the class and must not be redistributed without the instructor's consent.